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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,205	01/16/2001	Winston W. Hodge	Coax 01.001	5481

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EXAMINER

BELIVEAU, SCOTT E

ART UNIT PAPER NUMBER

2623

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,205

Applicant(s)

HODGE ET AL.

Examiner

Scott Beliveau

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Miscellaneous

1. Please note that the examination art unit for this application has changed to 2623.

Priority

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-50 of this application. In particular, the instant application is directed towards and claims subject matter pertaining to a single integrated digital headend that facilitates internal/external communications through a common shared bus and further serves to buffer of video, data and voice signals for distribution over the common bus.

Applicants argue that support for the buffering of video, and voice signals is found in conjunction with the combiner [89] and the encoders [11/51-58] and that the common shared bus is located between the encoders and the diplexer. The examiner concurs that adequate support is found such that the encoders [11/51-58] act to buffer video, data, and voice signals. However, the examiner respectfully disagrees that support for the particular usage of a common bus as claimed is found. It is unclear as to what element in particular applicants are relying upon to provide adequate disclosure for the usage of a common shared bus. The cited passages set forth that the encoders are connected to the combiner through a plurality of separate RF output lines as opposed to a common shared bus. Furthermore, it is unclear as to how the claimed upstream communications are further being distributed through the same

common shared bus as claimed if the common shared bus is to be construed as the interconnecting output lines between the combiner and the encoders. The earlier filling is silent with respect to how the combiner and the diplexer are interconnected other than to set forth that the output is a single composite signal. This interconnection however cannot meet the claimed usage of a common shared bus since the single composite signal is not further being transmitted between the combiner and the diplexer to a downstream QAM module as claimed. The particular interconnection between the combiner and group of QAM modulators is similarly unclear with respect to the usage of a common shared bus or individual interconnections between the combiner and each of the disclosed group of QAM modules. Accordingly, the claims of the instant application are not considered to provide adequate support under 35 U.S.C. 112 so as to receive the benefit of the earlier filling and the claims shall continue to be examined based upon the filling of the instant application or 16 January 2001.

Drawings

3. The drawings were received on 27 March 2006. These drawings are approved.

Request for Information

4. Applicant's response to the non-final rejection mailed on 26 September 2005, is silent with respect to whether or not applicants have available any further information regarding what has been designated as Prior Art. Applicants are respectfully requested to provide information pertaining to applicant's designated and disclosed prior art illustrated in Figures

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1 and 2. In particular, applicants are requested to provide the title, citation and copy of each publication (if any) that is a source used for the description of the prior art in the disclosure.

If no further information is available regarding the designated prior art, applicants are respectfully requested to indicate such in their next response.

Response to Arguments

5. Applicant's arguments with respect to claims 1-50 have been considered but are moot in view of the new ground(s) of rejection in light of applicant's claim amendments.

With respect to applicant's arguments regarding APA not teaching single integrated digital headend, the examiner respectfully disagrees. The Webster's II New College Dictionary defines "integrated" as "To make whole by bringing all parts together; unify". As illustrated in Figures 1 and 2, APA illustrates a 'digital headend' which brings together parts associated with or integrates a variety of services associated with the distribution of video, data, and voice information. Traditionally these services have been provided by different providers. As disclosed by applicants, the particular difference between the prior art headend and that of the application does not lie in whether or not both provide integrated services, but rather as to how they are integrated such that applicant's invention utilizes a modular approach without the particular usage of intermediately hardware/software (IA: Page 6, Lines 15-18). Accordingly, the particular digital headend [10] of APA is construed as meeting the claimed limitation of a "single integrated digital headend".

Claim Objections

6. Claims 1, 15, 26, and 40 are objected to because the phrase “said downstream module” lacks proper antecedent basis to the earlier recitation of a “plurality of downstream modules”. For the purpose of art evaluation, the examiner shall presume that “said downstream module” is referencing “a plurality of downstream modules”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
9. Claims 1-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant’s admitted prior art (APA), in view of Sherlock et al. (US Pat No. 6,882,709), and in further in view of Hirasawa (US Pat No. 4,887,075).

Claims 1, 15, 26, and 40 are rejected in view of Figure 1 of APA. Figure 1 illustrates a “two-way broadband system” including a “single integrated digital headend” [10] that is

“configured to process a plurality of digital video, a plurality of digital data, a plurality of voice information, and a plurality of upstream communications” thereby providing integrated services through a single headend (Page 3, Lines 10-13; Page 5, Lines 16-17). The headend comprises a “plurality of downstream modules . . . configured to transmit said plurality of digital video, said plurality of digital data, and said plurality of voice information” [18/26/34/42], “upstream module . . . configured to receive said plurality of upstream communications” [30],” a “cable distribution network in communications with said digital headend . . . configured to communicate a plurality of digital video, a plurality of digital data, a plurality of voice information, and a plurality of upstream communications” (Page 2, Lines 5-7; Page 3, Lines 13-16), and a “set-top box” that is “configured to receive said plurality of video, said plurality of data . . . [and] configured to generate said plurality of upstream communications” (Page 3; Lines 13-16; Page 5, Lines 1-9). Accordingly, APA is silent with respect to the particular usage of “smart network interface modules” which are operatively coupled to a “shared bus” as well as whether or not the particular “set-top box” is necessarily configured to also “receive said plurality of voice information”.

With respect to the particular usage of a “set-top box” that is “configured to receive said plurality of video, said plurality of data, said plurality of voice information, [and] configured to generate said plurality of upstream communications”, in an analogous art pertaining to broadband distribution systems, the Sherlock et al. discloses the usage of a “set-top box” [155] that is configured to receive/generate the aforementioned (Col 2, Line 64 – Col 3, Line 21). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify the “set-top box” of APA, so as to be

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“configured to receive said plurality of video, said plurality of data, said plurality of voice information, [and] configured to generate said plurality of upstream communications” as taught by Sherlock et al. for the purpose of providing an improved means by which to provide and manage enhanced telephony service offerings (Sherlock et al.: Col 1, Line 44, - Col 2, Line 4).

With respect to the particular usage of a “at least one smart network interface module . . .” and a “shared bus operatively coupled to said smart interface module”, as aforementioned, APA is silent as to the usage of such; however, it discloses the particular usage of a LAN switch [66] (Figure 2). In an analogous art pertaining to the problem of controlling signal processing, Figure 1 of Hirasawa illustrates a method for facilitating communications between multiple computers. In particular, the computers utilize “at least one smart network interface module” [32-n] configured to buffer” [45-1 and 45-2] “bi-directional digital communications” and a “shared bus” [30] “operatively coupled to said at least one smart network interface module”. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made so as to modify APA so as to utilize the “at least one smart network interface module” and the LAN “shared bus” of Hirasawa in conjunction with the disclosed LAN of APA for the purpose of providing a method by which multiple computers may efficiently intercommunicate (Hirasawa: Col 1, Lines 17-51). Taken in combination, with APA, such allows the individual computers of APA Figure 1 to intercommunicate and to further utilize a shared bus or LAN so as to distribute the aforementioned “plurality of digital video, said plurality of digital data, said plurality of

voice information and said plurality of upstream communications” to the respective upstream/downstream components in a high speed manner.

Claims 2, 16, 27, and 41 are rejected wherein the “at least one smart network interface module is operatively coupled to a control computer” [36] that is “configured to perform content management and resource allocation” (APA: Page 5, Lines 7-10).

Claims 3, 17, 28, and 42 are rejected wherein the “at least one smart network interface module is operatively coupled to a service computer” [20] that is “configured to manager conditional access” (APA: Page 3, Line 3 – Page 4, Line 2).

Claims 4, 18, 29, and 43 are rejected wherein the “at least one smart network interface module is operatively coupled to a video server” [38] that is “configured to provide local storage for digital video” (APA: Page 5, Lines 9-10).

Claims 5, 19, 30, and 44 are rejected wherein the “at least one smart interface module is operatively coupled to an Internet computer” [22] that is “configured to communicate Internet data” (APA: Page 4, Lines 2-5).

Claims 6-8 and 31-33 are rejected wherein the “at least one smart network interface module is operatively coupled to a telephony computer . . . configured to communicate telephony data” wherein the “telephony computer comprises a switched telephony system . . . configured to communicate telephony data” or the “telephony computer comprises a Voice over IP system . . configured to communicate telephony data” (APA: Page 5, Lines 16-21).

Claims 9, 20, 34, and 45 are rejected wherein the “at least one smart network interface module is configured to optimize the transfer of a plurality of bits associated with said plurality of digital video, said plurality of digital data, said plurality of voice information and

said plurality of upstream communications across said shared bus” in accordance with the teachings of Hirasawa. The claims do not set forth what is required or condition is being met such that the transfer is considered “optimal”. Accordingly, the limitation is considered met in light of the teachings of Hirasawa that the particular distribution method improves the speed of data transfers over the prior art. It is unclear as to why one would conclude that this would be viewed as being non-optimal with respect to the stated objective of increasing the speed of transfer of information between associated computers in light of the prior art.

Claims 10, 21, 35, and 46 are rejected in light of the combined teaching wherein as aforementioned “said at least one smart network interface module” of Hirasawa “is configured to buffer said plurality of digital video, said plurality of digital data said plurality of voice information, and said plurality of upstream communications” and “communicate with said plurality of downstream modules” [18/26/34/42] of APA so as to provide subscriber services.

In consideration of claims 11-14, 22-25, 36-39, and 47-50, the “at least one smart network interface module” are inherently “configured to buffer a plurality of . . . control data” associated with the respective “digital video”, “digital data”, “voice information”, and “upstream communications”. In the downstream direction, APA discloses the particular usage of MPEG-2 transport streams for video data and the Internet Protocol (IP) and the data-over-cable service interface specification (DOCSIS) in connection with the voice and data communications. The disclosed usage of these standards requires “control information” as necessary to process the incoming/outgoing data by either the subscriber or headend. For example, MPEG transport streams require control data (ex. PIDs, timing information, etc.) in

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order for the STB to properly decode and reassemble the received transport stream. TCP/IP requires control information as necessary to route messages to the appropriate client/server.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 571-272-7343.

The examiner can normally be reached on Monday-Friday from 8:30 a.m. - 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SEB
June 7, 2006

Scott Beliveau
Examiner
Art Unit 2623